

Docket No. F-9186

Ser. No. 10/588,668

REMARKS

Claims 1, 3, 4, and 7-20 are now pending in this application. Claims 2, 5 and 6 are cancelled herein. Claims 18-20 are withdrawn. Claims 1-17 are rejected. Claim 1 is amended herein to clarify the invention. Claims 4, 8 and 16 are amended to change their dependency. No new issues are introduced by the Amendments.

Applicant respectfully requests reconsideration of the pending claims in light of the following remarks. Applicant respectfully submits that the application is in condition for allowance.

Amendment to Claim 1

Claim 1 is amended to include the subject matter of cancelled claims 2, 5 and 6. Claim 1 also is amended to recite the ordering of the modules in the laminated structure in a less 'wordy' fashion. No substantive limitations are deleted from claim 1. No new limitations (other than by inserting the limitations from claims 2, 5 and 6) are added to claim 1. Accordingly, the Amendment does not raise new issues requiring further searching. Amendment to claim 1 is submitted to place the claim in better condition for appeal.

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Prior Art Rejections and the Cited Art

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakata '545 (USP 6,204,545) in view of Alvi (listed in previously submitted IDS). Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakata '545 in view of Alvi, and further in view of Freundlich et al. (USP 6,150,604). Claims 4-11, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakata '545 in view of Alvi and Freundlich et al., and further in view of Nakata '1858 (WO 2004/001858). Claims 12 and 13 are rejected under 35 USC 103(a) as being unpatentable over Nakata '545 in view of Alvi and Freundlich et al., and further in view of Alivisatos et al. (US Patent Pub 2003/0226498). Claims 14 and 15 are rejected under 35 USC 103(a) as being unpatentable over Nakata '545 in view of Alvi and Freundlich et al., and further in view of Alivisatos et al. and Weigleiter et al. (USP 6,531,405).

Amended claim 1 is based on previously submitted claims 1, 2, 5 and 6. Nakata '545, Alvi, Freundlich et al., and Nakata '1858 are cited against such claims.

Nakata '545 discloses a semiconductor device, including an embodiment as a solar battery having a plurality of spherical semiconductor elements. The Examiner cites Nakata '545 as disclosing a laminated solar battery. Such finding is respectfully traversed.

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Although Nakata '545 disclose plate-type modules, there is no suggestion that such modules are **laminated layers in a laminated structure**. Laminate, as defined by in the Merriam Webster online dictionary is to unite layers of material by an adhesive. The Free Online dictionary defines a laminate as a material made by bonding two or more sheets or layers.

Nakata '545 discloses a case having storage cavities into which the spherical elements are placed, (Col. 6, line 6, lines 37-42; Col. 8, lines 31-36, lines 62-66; Col. 9, lines 14-15; Col. 25, lines 1-3). The Nakata '545 case is formed using a construction in which two sheet materials are joined at the surface, (Fig. 26, Col. 25, lines 56-63). The storage cavities are formed in the materials, (Col. 25, lines 1-3). Accordingly, the Examiner's finding that Fig. 26 shows a first layer of a laminated structure formed by two left side arrays, and a second layer of a laminated structure formed by two right side arrays is respectfully traversed. It is respectfully submitted that Nakata '545 does not suggest laminating plural module layers integrally in a solar battery device.

Alvi discloses a photovoltaic system using different types of solar cells.

Freundlich et al. disclose an indium-gallium-arsenide p-i-n photovoltaic cell modified by insertion of strained quantum wells.

Nakata '1858 disclose a light emitting or receiving device having wire members 4 fastened to a fastening plate 1. A opening part 5 and projecting strips

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6 are formed in the plate 1. The strips have grooves for fastening positive pole and negative pole wire members 4a, 4b. The Examiner cited Nakata '1858 as disclosing spherical solar cells via plural lead wires 41, 4b in a columnar direction.

The Claims Distinguished

Applicant reasserts the arguments submitted in the prior Amendment for distinguishing over the cited art. Applicant also submits the following remarks, and request reconsideration of the claims.

Claim 1 distinguishes over the cited art based at least on the following claim limitations:

- A **laminated** solar battery, comprising:
 - different types of solar cell modules each having a respectively different sensitivity wavelength band and **each configured generally in a form of a layer**, said solar cell modules being **incorporated as an integrally laminated structure** in which the solar cell modules are consecutively layered from an indicated side of said structure for receiving sunlight in an order according to shortness of a center wavelength of each solar cell module, wherein a solar cell module having the shortest center wavelength is located closest to said indicated side;
 - wherein at least one of said different types of said solar cell modules comprises a cell group module including a plurality of nearly spherical solar cells

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aligned in plural rows and plural columns which are extending crosswise to a direction of lamination of said solar cell modules;

- wherein a serial connection circuit which electrically connects said solar cell modules in series, said different types of solar cell modules being configured such that designed maximum output currents of said solar cell modules are approximately equal to one another.

It is respectfully submitted that the cited art does not disclose a laminated solar battery formed as an integrated laminated structure, in which each solar cell module is generally configured as a layer therein. It also is respectfully submitted that the cited art does not disclose a plurality of nearly spherical solar cells of a module aligned in plural rows and plural columns which extend crosswise to a direction of lamination. It also is respectfully submitted that the cited art does not disclose a laminated solar battery in which different types of solar cell modules are configured to have maximum output currents that are approximately equal to one another.

Request for Extension of Time

Applicant respectfully requests a one month extension of time for responding to the Office Action. **The fee of \$75 (Small Entity) for the extension**

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is provided for in the charge authorization presented in the PTO Form 2038, Credit Card Payment form, provided herewith.

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In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited.

Respectfully submitted,

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